

ABSTRACT OF THE DISCLOSURE

A method for determining the length and velocity of single elongated macromolecules is disclosed. In particular, the present invention relates to methods and apparatus for determining the velocity of elongated polymeric molecules moving relative to one or more detection stations, as well as to methods and apparatus for determining the length of such molecules and the distance between landmarks that may be present on such molecules. The invention makes use of time correlated measurements of signal amplitude profiles that result from interactions between each detection station and portions of each macromolecule.